

## **401 KAR 47:190. Contents of the technical application for solid waste landfills.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.40-305

NECESSITY, FUNCTION, AND CONFORMITY: KRS Chapter 224 requires the cabinet to adopt rules and administrative regulations for the management, processing or disposal of wastes. KRS 224.40-305 requires that persons engaging in the management, processing or disposal of waste obtain a permit. This chapter establishes the permitting standards for solid waste sites or facilities, the standards applicable to all solid waste sites or facilities, and the standards for certification of operators. An overview of the permit program is found in Section 1 of 401 KAR 47:080. This administrative regulation sets forth the general content requirements for a technical application for a solid waste landfill.

Section 1. Objective and General Requirements. The objectives of the technical application are to specify technical standards. The technical application contains the facility design and narrative. The cabinet shall evaluate the application for compliance with the environmental performance standards in 401 KAR 47:030 and other applicable administrative regulations. The applicant shall submit the technical application in a format approved by the cabinet and signed in accordance with Section 6 of 401 KAR 47:160. Engineering drawings, specifications and studies shall be signed and sealed by a professional engineer registered in Kentucky. The contents of the technical application contains information that is part of a complete application as required by KRS 224.40-310. The contents of the technical application shall be accurate and complete at the time the cabinet makes its preliminary determination to issue a solid waste permit.

Section 2. Design Plans. (1) An applicant for a solid waste landfill permit shall submit engineering plans showing the design of the site. The engineering plans shall meet the design requirements of 401 KAR 48:060 for construction/demolition debris landfills, 401 KAR 48:070 and 401 KAR 48:080 for contained landfills or 401 KAR 48:170 for residual landfills. The applicant shall submit copies of the application including engineering drawings in accordance with Section 1(4) of 401 KAR 47:160.

(2) At a minimum, each drawing set in the application shall include the following drawings:

(a) A drawing of the entire site on one (1) sheet showing:

1. Current site conditions;
2. Site development plan including buffer zones;
3. Location of environmental monitoring points for surface water, groundwater and methane; and
4. Baselines.

(b) Site plans drawn to a scale of one (1) inch equals 100 feet unless an alternative scale has been approved showing:

1. Development plan;
2. Location of environmental monitoring points for surface water, groundwater and methane; and
3. Baseline or off-set baseline;

(c) Cross-sections at 100 foot intervals of each baseline at a scale of one (1) inch equals ten (10) feet vertically and one (1) inch equals 100 feet horizontally;

(d) Drawing of the profile along each baseline; and

(e) Other drawings as needed to properly depict the site's proposed development and details of construction design and construction.

(3) The applicant shall use the terminology of this subsection to name and label elements of the solid waste landfills. The plans and reports shall be organized and referenced using the following:

(a) Facility shall be the total area under permit;

(b) Unit shall be the highest named element within the facility;

(c) Phase shall be a subdivision of a unit and shall be the smallest element designated for the purpose of financial assurance as required by KRS 224.40-650; and

(d) Working area shall be a subdivision of a phase.

(4) Typical details shall be included in the plans showing the features of cell, lifts, liners, daily cover, interim cover, long-term cover and final cover.

(5) The plans shall show the working areas, phases and units and the order that each shall be filled. The plan shall include volume data for each phase and unit.

Section 3. Narrative. (1) An applicant for a solid waste landfill permit shall submit a design narrative. The narrative shall address how the application meets the requirements of 401 KAR 47:030, 401 KAR 48:050, and 401 KAR 48:060 for construction/demolition debris landfills; 401 KAR 47:030, 401 KAR 48:050, 401 KAR 48:070 and 401 KAR 48:080 for contained landfills; or 401 KAR 47:030, 401 KAR 48:050 and 401 KAR 48:170 for residual landfills. The narrative shall also include the construction quality control plan required by Section 6 of this administrative regulation and the quarterly report specifications required by Section 8 of this administrative regulation.

(2) An applicant for a solid waste landfill permit shall submit an operations narrative describing how the operational requirements of 401 KAR 48:060 for a construction/demolition debris landfill, 401 KAR 48:090 for a contained landfill or 401 KAR 48:170 for a residual landfill shall be met.

Section 4. Closure, Closure Care and Performance Bond. (1) An applicant for a solid waste landfill permit shall submit closure and closure care plans meeting the requirements of 401 KAR 48:060 for a construction/demolition debris landfill, 401 KAR 48:070 through 401 KAR 48:090 for a contained landfill and 401 KAR 48:170 for a residual landfill. Design specifications for the cap shall be included.

(2) The applicant shall submit a closure and closure care cost estimate for the plans in subsection (1) of this section consistent with the requirements of 401 KAR 48:310.

(3) Upon approval of the permit application and before the issuance of the construction/ operating permit, the applicant shall submit the performance bond for closure and closure care which meets the requirements of 401 KAR 48:310.

Section 5. Surface Water and Groundwater Monitoring and Corrective Action Plan. An applicant for a solid waste landfill permit shall submit a surface water and groundwater monitoring plan meeting the requirements of 401 KAR 48:300.

Section 6. Construction Quality Control Plan. (1) An applicant for a solid waste landfill permit shall submit a construction quality control plan that shall ensure the site or facility is constructed in a manner conforming to the requirements in Sections 7 and 8 of this administrative regulation and containing the following elements:

(a) The persons responsible for each part of the quality control plan;

(b) Frequencies and specifications for inspections and tests;

(c) Forms to be used;

(d) Survey control system of plan views and cross-sections for such inspections and tests; and

(e) A statement to be used for certifying that the quality control plan was followed by the owner or operator.

(2)(a) The construction quality control plan shall provide assurance that the layers of the homogeneous low permeability soil liners are compacted using nonvibratory compactors with full depth penetrating feet with a minimum of six (6) passes per soil layer. The compactor ballast shall be varied to prevent reaching the desired proctor density with less than six (6) passes. The feet length shall be one (1) inch longer than the loose soil layer thickness.

(b) Smooth rollers may be used at the end of each work period to seal the surface from rain infiltration.

**Section 7. Landfill Liner Requirements.** An applicant for a solid waste landfill permit shall submit liner designs in accordance with 401 KAR 48:080 for contained landfills, 401 KAR 48:060 for construction/demolition debris and 401 KAR 48:170 for residual landfills.

**Section 8. Landfill Recordkeeping and Reporting.** An applicant for a solid waste landfill permit shall submit plans for a recordkeeping and reporting system. The plan shall meet the following requirements:

(1) A quarterly report shall be submitted to the cabinet on a form approved by the cabinet no later than the 15th of the month following the end of each quarter year. The quarters shall end on March 31, June 30, September 30 and December 31 of each year. The report shall contain the following:

- (a) Description of construction activities during the quarter;
- (b) Monthly volume of waste received from each source;
- (c) Description of compliance with cover requirements;
- (d) Environmental monitoring results including surface water, groundwater, methane, and other permit conditions; and

(e) The quantity and concentration of leachate removed from the site, where disposed, and the method of disposal. The concentration shall be determined using appropriate parameters from Section 10(2) of 401 KAR 48:300 for construction/demolition debris landfills and Section 10(3) of 401 KAR 48:300 for contained landfills.

(2)(a) An annual survey shall be conducted by the owner operator to determine remaining landfill volume which may be used for waste disposal. The quantity of waste disposed per day shall be determined by dividing the total waste received in one (1) year by 365 calendar days. The survey shall be conducted annually and the results shall be submitted to the cabinet no later than sixty (60) days following the actual survey. When aerial photography is used, the survey results shall be provided within ninety (90) days of the aerial photography. This survey shall bear the seal and signature of the registered professional land surveyor or professional engineer who performed the survey. The owner or operator shall notify the cabinet no less than fifteen (15) calendar days prior to the date the survey shall be conducted.

(b) The annual survey shall be made between January 1 and May 1 each year and shall be submitted to the cabinet within sixty (60) days. The annual survey shall contain the following information:

1. Cross-sections on 100 foot intervals showing current waste placement and proposed final contours; and

2. Remaining capacity in cubic yards.

(3) Surface water and groundwater sample shall be collected and analyzed according to the following criteria:

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The owner or operator shall retain records of all monitoring information, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the cabinet at any time. In addition, the owner or operator shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for the closure care period as well.

(c) Records of monitoring information shall include:

- 1. Date, exact place, and time of sampling or measurements;
- 2. Individual who performed the sampling or measurements;

3. Date analyses were performed;
4. Individual who performed the analyses;
5. Analytical techniques or methods used; and
6. Results of such analyses.

(4) All waste entering a contained landfill shall be weighed prior to disposal.

(5) The owner or operator of a contained landfill shall keep permanent records of the source, disposal location and quantity of any spill residues and limited quantity generator hazardous wastes, and records as to the source and quantity of all other wastes disposed of at the contained landfill. These records shall be available for cabinet inspection and shall be summarized in a report and submitted to the cabinet with the annual report or request for permit renewal.

Section 9. Alternative Specifications. Alternative specifications may be used only after approval by the cabinet upon a demonstration by a qualified registered professional engineer that they will result in performance with regard to safety, stability and environmental protection equal to or better than that resulting from designs complying with the specifications of this administrative regulation. (16 Ky.R. 1763; 2203; 2365; eff. 5-8-1990; Crt eff. 10-9-2018.)